

Travel Funds to Spring Meeting Available to Foreign Graduate Students

Grants of up to \$250 are available to foreign graduate students studying in the U.S. for travel to the AGU Spring Meeting, May 14-18 in Cincinnati, Ohio.

The funds, a grant from the Short-Term Enrichment Program (STEP) of the U.S. Information Agency, are available to full-time foreign graduate students who are not receiving any U.S. government funds. Students in refugee, immigrant or tourist visa status are not eligible.

For complete eligibility requirements and an application, write or call:

Member Programs Department
American Geophysical Union
2000 Florida Avenue, N.W.
Washington, DC 20009
202/462-6903

Deadline:
April 30, 1984

It had been limited to one or two students per Chapman Conference, where no other funds were available. Now, the number funded is only limited by the annual budget. The Meetings Committee also reviewed the Guidelines for Cosponsorship of Meetings and decided that they are eligible as they stand. The Guidelines are as follows:

AGU Cosponsorship of Other Meetings

Criteria

1. The meeting must appear to be of more than peripheral interest to at least one segment of the AGU membership.
2. The sponsoring organization must be acceptable to the Executive Committee and the officers of the appropriate AGU section(s).
3. The proposed program (insofar as it is known) and the format must be approved by the officers of the appropriate section(s).
4. The AGU will not incur any substantial financial responsibility.
5. An AGU representative is appointed to the program committee.
6. If outside U.S., consideration has been given to consultation with local geophysical or equivalent organizations and appropriate steps taken to avoid the appearance of unilateral action of another's turf.
7. The plans for publication of results (if any) should be made known.
8. The openness of the meeting should be stated (i.e., the number of invited/contributed participants and how selected).

Commitment

1. Some advertising or announcement in *Eos*.
2. Limited use of AGU mailing lists and an occasional AGU financed mailing.

Policy

Only short courses organized by scientific societies will be cosponsored by AGU.

Public Affairs Committee

The Public Affairs Committee reported the successful launching of the Science and Policy Lecture series. They approved a list of 10 lecturers, heads of departments of major geophysical universities were notified of the program, and several lectures are scheduled for the spring. Additional promotion of this program is underway. More lecturers will be added to the list when the program expands. The special session at the Fall Meeting on Nuclear War: Its geoscientific and geophysical consequences, which the committee initiated, was very successful. The committee is pursuing suggestions for a future public issues symposium.

The committee expressed its approval of the *Eos* coverage of Congressional activities and of the handling of the press at the national meetings. The Public Affairs Committee requested Executive Director Spillhaus to make contact with appropriate individuals on Capitol Hill to facilitate recognition of AGU as a source

for objective scientific testimony and expertise. The Committee's revised version of AGU's Guide to Legislative Information and Contacts has been completed. A summary of the guide had been published in the December 1983 *Eos*. It is available on request from AGU Member Programs, 2000 Florida Avenue, N.W., Washington, DC 20009 (phone: 202-462-6903).

Supporting Members

Individual Supporting Members

All dues-paid members contributing an additional \$80 or more in any single year earn recognition as Individual Supporting Members for that year. Among the present Individual Supporting Members, there are 21 Life Supporting Members. To have achieved this special recognition, they have contributed \$1500 or more thus far during the AGU-GIFT program. As a benefit (or dividend) they have no further dues obligations.



Life Supporting Members

L. Thomas Aldrich, Thomas D. Barrow, Hugh J. A. Chivers, Allan V. Cox, Samuel S. Goldich, Paul Brooks, J. Hart, A. Ivan Johnson, Helmut E. Landsberg, Paolo Lanzano, Morli H. Mangham, L. Neutonen, Charles B. Olfert, Hyman Orlin, Erick O. Schmiedt, Waldo E. Smith, Arbetan Spillhaus, A. F. Spillhaus, Jr., John W. Townsend, Jr., James A. Van Allen, Leonard W. Weis, Charles A. Whitten, J. Tuzo Wilson.

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Kenneth L. Hopkins, Earl Ingerson, David S. Johnson, Albert W. Kadzlar, Hiroo H. Kanamori, William M. Kaula, William W. Kellogg, Hugh H. Kieffer, Carl Kissinger, John A. Kinnison, Alan A. Kohler, Serge A. Korff, Eric K. Krass, Irving P. Kriv, Statistius M. Krimm, Joseph W. Lang, Gordon C. Lall, J. Virginia Lincoln, Paul A. Lindberg, James P. Loder, J.

Alexander Malaflov, Thomas E. Malone, Florent Maple, William Markowitz, Ronald G. Mason, John C. Maxwell, Vincent E. McKelvey, Gilbert D. Merall, Jayme M. Mead, Buford K. Meade, Leslie H. Meredith, J. Murray Mitchell, Jr., Christopher N. K. Moner, Ivan L. Mueller, Bruce C. Murray, Jerome Nankias, Gang S. Nelson, Alfred O. Nier, Worth D. Nowlin, Jr., Anus Nur, Foshir O. Opatoff, Neil A. Osterio, L. N. Parker, Ernest J. Parkin, David E. Paskausky, Dean F. Peterson, C. Scott Petz, W. H. Pickering, Louis O. Quinn, John C. Reed, Joseph L. Reid, Roger Revell, Malcolm Right, Walter O. Roberts, Eugene C. Robertson, Juan G. Roederer, Claes G. H. Roelofs, Jacob Rubin, Morton J. Rubin, William B. F. Ryan,

Michael Schulz, Alan H. Shapley, Margaret A. Shea, Norman H. Sleep, Joseph V. Smith, Kenneth C. Spengler, F. N. Spiess, Thomas W. Stern, Edward C. Stone, Glenn E. Stott, Verne E. Suomi, George H. Sutton, Kendall L. Svendsen, Lynn R. Sykes, Malik Tabani, Charles V. Theis, George A. Thompson, Edward P. Todd, M. Nafi Toksoz, James W. Tucker, Richard P. Turco, Rob Van Der Voo, John W. Vanderwall, Pierre Verdel, James L. Verre, Clyde Wahrhaftig, James R. Wallis, Martin Walt, Harvey O. Wesley, Fred D. White, Loren D. Wicks, Owen W. Williams, Abel Wolman, Oliver R. Wulf, Gordon A. Young, John M. Zeigler

Organizations

Many organizations show their support of the objectives of AGU through supporting membership in one of the following categories (1981 rates):

- Sustaining Members \$2,400
- Contributing Members \$1,200
- Supporting Members \$400

Such affiliation is the company's public avowal that it is committed to the support of the objectives of the Union and to the fulfillment of the needs of its scientific staff.

Contributing Members

Chevron Oil Field Research Company, IBM, Shell Development Company.

Supporting Members

Aerospace Corporation, Amoco Production Company, Bell Laboratories, Exxon Corporation, Exxon Production Research Company, Gulf Research & Development Company, Institut für Meteorologie und Geophysik, Universität Innsbruck, Kerr-McGraw Corporation, Kinematics, Inc., Lockheed Aircraft, Mobil and Space Division, Marathon Oil Company, McDonnell-Douglas Astronautics Company, Phillips Petroleum Company, Schlumberger Instrument Company, Telefunken/Gretech Division, Texas Instruments, TRW, Inc./TRW Systems Group, UCAR, Western Geophysical Company.

For advertising information, contact Robin E. Little, advertising coordinator, at 202-462-6903 or toll free at 800-424-2488. Advertising must be informative and consistent with the scientific and educational goals of AGU and is subject to approval by AGU. Advertisers and their agents assume liability for all content of their advertisements and for any claims arising therefrom against the publisher. Offers in advertisements are subject to all laws and are void where prohibited.

GEOPHYSICIST

Faculty position in Seismology/New Mexico Tech. New Mexico Institute of Mining and Technology invites applications for a tenure-track position in Seismology at the Assistant Professor level. The PhD is required. The position is a joint appointment with the College of Arts and Sciences. The successful candidate will be responsible for teaching and research in the field of Geophysics. The position is located in the field of Geophysics, and the successful candidate will be responsible for teaching and research in the field of Geophysics. The position is located in the field of Geophysics, and the successful candidate will be responsible for teaching and research in the field of Geophysics.

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Space Physics Research Laboratory/Department of Atmospheric and Oceanic Sciences, The University of Michigan. Seeks a Research Investigator or Assistant Research Scientist to conduct observational and theoretical studies on the dynamics of the thermosphere and ionosphere. The candidate should have a Ph.D. degree or equivalent experience in research. Experience in optical and/or radar observation of the upper atmosphere is desirable. Send curriculum vitae, list of publications, and the names and addresses of three references before May 1, 1984 to:

Dr. James C. G. Walker
Space Physics Research Laboratory
Department of Atmospheric & Oceanic Sciences
The University of Michigan
2455 Hayward
Ann Arbor, MI 48109-2143

The University of Michigan is an equal-opportunity/affirmative action employer.

Eastern Illinois University/Department of Geography & Geology. Teaching Position in Geology. The Department of Geography & Geology at Eastern Illinois University is accepting applications for a temporary one-year position in geology starting August 25, 1984. The position is a full-time position with a salary of \$12,000 per year. The position is located in the Department of Geography & Geology, Eastern Illinois University, Charleston, Illinois 61926. The position is a full-time position with a salary of \$12,000 per year. The position is located in the Department of Geography & Geology, Eastern Illinois University, Charleston, Illinois 61926.

APPLICANTS SHOULD SUBMIT THE FOLLOWING TO THE ABOVE ADDRESS AS SOON AS POSSIBLE:

- (1) Application deadline is May 1, 1984. Late completion of application is encouraged.
- (2) Individuals wishing to apply should immediately make their interest known to:

Dr. Gary Wallace, Chairman
Department of Geography and Geology
Eastern Illinois University
Charleston, Illinois 61926
Telephone office: (312) 851-2926; home: (312) 851-3772

(3) Candidates should submit the following materials to the above address as soon as possible:

- a) Letter of application
- b) A current vitae
- c) Transcripts from all institutions from where college credits have been earned
- d) Arrange for three letters of recommendation to be sent. Send names, addresses, and telephone numbers of referees with letter of application.

Eastern Illinois University is an affirmative action and equal employment opportunity employer.

EOS

Transactions, American Geophysical Union

The Weekly Newspaper of Geophysics

For speediest treatment of contributions send three copies of the double-spaced manuscript to one of the editors named below and one copy to AGU.

Editor-in-Chief: A. F. Spillhaus, Jr., Editors: Marcel Ackenman, Mary P. Anderson, Peter M. Bell (News), Bruce Doe, Stewart Gillmor (History), Clyde C. Good, Arnold L. Gordon, Louis J. Lannert, Robert A. Philpott, Managing Editor: Michael Schaefer, News Editor: Barbara T. Rikhsanov, News Assistant: Tony Reichardt, Production Staff: Dae Sung Kim, Patricia Liechti, Lisa Liechti, Cynthia T. McLaughlin.

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American Geophysical Union
2000 Florida Avenue, N.W.
Washington, DC 20009

Cover. Signs photographed on a Sunday afternoon drive around Fairbanks, Alaska, clearly indicate that the city is located somewhere near the northern auroral zone, as has previously been reported. (Photo contributed by Robert H. Eather, author of *Majestic Lights: The Aurora in Science, History, and the Arts*, American Geophysical Union, Washington, DC, x + 223 pp., 1980, AGU members \$29.40, others \$49.)

Air Force Geophysics Laboratory/Geophysics Scholar Program (1984-1985). The Air Force Geophysics Laboratory (AFGL) and the Southwest Center for Electrical Engineering Education (SCEE) announce that applications are invited for research appointments during the 1984-1985 year in the Geophysics Scholar Program. This program provides research opportunities of 10 to 12 months duration for selected Engineers and Scientists to perform research in residence at the AFGL, Hanscom AFB, near Boston, Massachusetts. Scholars will be selected primarily from such fields as Geophysics, Atmospheric Physics, Meteorology, Ion Chemistry, Applied Science, Mathematics Modeling using Computers, and Engineering.

To be eligible, candidates must have a Ph.D. or equivalent experience in an appropriate technical field. Some appointments may be continued prior to August 1985 so early applications are encouraged. All qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin. Application deadline for September appointment: August 1, 1984. For further information and application forms contact: SCEE, 1101 Massachusetts Avenue, St. Cloud, FL 32769. Telephone: (904) 329-0116. SCEE supports Equal Opportunity/Affirmative Action.

Applied Science Associates. Applied Science Associates, Inc. (ASA) is a consulting ocean engineering and design firm specializing in numerical modeling of shelf, coastal and nearshore processes, seeking to add senior level positions to its rapidly growing staff. Applicants with research interests in numerical modeling of oil spill rates and impact, ecosystem dynamics, marine and ground water hydrodynamics and pollutant transport, sediment transport, and wave dynamics are of particular interest. Applicants should submit a resume, evidence of the ability to generate a contract research and development program, and the names of three references to:

Dr. Malcolm L. Spaulding
Applied Science Associates, Inc.
529 Main Street
Wakefield, Rhode Island 02879

ASA is an affirmative action/equal opportunity employer.

Faculty Position in Structural Geology/Tectonics. The Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, has an opening at the Assistant Professor level in the area of structural geology and tectonics. We will fill this position with either a tenure track or temporary appointment beginning with the Fall 1984 term. For the temporary appointment ranks higher than Assistant could be considered. A Ph.D. is required.

The successful applicant will be expected to teach courses in structural geology, structural analysis, tectonics, and/or other areas of research interest. The tenure track appointee will be expected to develop a vigorous program of sponsored research and to direct graduate student projects.

The MEAS Department currently has 31 full-time faculty, including 12 geologists and geophysicists. The department has a complete range of facilities for at least three research areas: 1) Structural, North Carolina State University, Raleigh, NC 27607-8209, telephone (919) 737-2212. Applications will be considered as received, with a closing date of May 1, 1984. North Carolina State University is an equal opportunity/affirmative action employer.

Electronic Engineer. The MIT Haystack Observatory has an opening for an Electronic Engineer to design and develop electronic equipment for the Very Long Baseline Interferometry (VLBI) measurements for radio astronomy and geodetic applications. Duties include design and construction of RF systems including mixers, converters, frequency multipliers, PLL's, synchronous detectors, etc. Person will supervise construction, test and installation of such new equipment and document all electronic equipment. Enthusiasm and ability to actively participate in observatory experiments with scientists.

Applicants should have a B.S. in Electrical Engineering and M.S. or equivalent in the field of electronics. The position is full-time and permanent, with a salary commensurate with experience. The position is located at the MIT Haystack Observatory, 30 West Street, Cambridge, MA 02139. The position is an equal opportunity/affirmative action employer.

Assistant to the Director
Haystack Observatory
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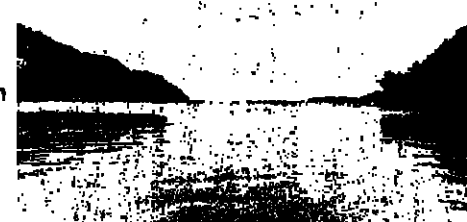
Research Associate/University of Colorado. The Cooperative Institute for Research in Environmental Sciences (CIRES) invites applications for a Research Associate in the CIRES Research Associate to work on the mechanical, electrical, and chemical response of the high altitude upper atmosphere to the energy deposited by precipitating energetic charged particles and by Joule heating from electrical current flow. The salary is \$24,000 plus medical expenses for recent Ph.D. graduates with no experience. Salary is negotiable for experienced applicants.

The work would involve analysis of charged particle observations made by the TIROS/NOAA satellites since 1978. Of particular interest is the conversion of these observations and the years relevant to the ionosphere and upper atmosphere such as electrical conductivities and the altitude dependent rate of heat input. Work would also be done on the correlation and analysis between these observations and derived parameters and other observations from space and ground. The ultimate objective is to merge these observations with a variety of existing models of atmospheric behavior in response to energy input.

Applicants should have a Ph.D. degree or its equivalent in magnetospheric and/or ionospheric physics, ionospheric physics, or atmospheric physics. A strong background in computer processing and manipulation of large data sets would be very useful. The successful applicant will collaborate with scientists at the National Center for Space Environmental Prediction (NCEP) and the National Center for Environmental Prediction (NCEP) and will be expected to contribute to the completion of their Doctorate during the 1984-85 academic year are encouraged to apply. Teaching responsibilities include upper graduate courses and introductory geology, meteorology, periglacial (sedimentary), and a seminar in area of special interest.

Those interested should send a letter of application, resume, three letters of recommendation to: Arnold, Silverman, Chairman, Department of Geology, University of Montana, Missoula, MT 59812. The DEADLINE for applications is May 15, 1984. The University of Montana is an affirmative action/equal opportunity employer.

Our Threatened Climate



Ways of Averting the CO₂ Problem Through Rational Energy Use

WILFRID BACH

1983, xxiii + 368 pp.
Cloth Dfl. 95,- / US \$ 29.00 / £ 24.25

ISBN 90-277-1680-3

Wilfrid Bach has succeeded in thoroughly exploring the hazards which face our climate on a global scale. The book can be seen as a valuable decision-aid for those in positions of responsibility at various levels of administration, industry or commerce. Certain precautionary measures are not only necessary for reasons of environmental protection. They are also an economic and political necessity. The measures include the reduction of the combustion of fossil fuels, a more rational energy utilization, as well as the establishment of a global equilibrium between forest loss and reforestation.

Carbon Dioxide

Current Views and Developments in Energy/Climate Research
2nd Course of the International School of Climatology, Ettore Majorana Centre for Scientific Culture, Erice, Italy, July 16-26, 1982

Edited by
W. BACH, A. J. CRANE, A. L. BERGER, and A. LONGHETTO

1983, xi + 526 pp.
Cloth Dfl. 180,- / US \$ 72.00 / £ 45.75

ISBN 90-277-1485-1

The ongoing combustion of fossil fuels, together with land use changes, has led to the emission of large amounts of CO₂ into the atmosphere. Since the release rate is greater than the absorption rate in the natural system, Man has set in motion a global-scale geophysical experiment whose effects on the environment are unpredictable and whose impact on human life may well be serious. This book explores the climate response to CO₂, the impacts of a CO₂ increase, and strategies to deal with such impacts.

D. Reidel Publishing Company

P.O. Box 17, 3300 AA Dordrecht, Holland
190 Old Derby Street, Hingham, MA 02043, U.S.A.

Utah State University/Faculty Positions. Two research faculty research positions are available in the Department of Physics and the Center for Atmospheric and Space Sciences at Utah State University. Candidates should have a Ph.D. degree and experience in theoretical and/or experimental astrophysics and space physics. Experience in the following areas will be advantageous: experimental optical spectroscopy, theoretical modeling of the chemical and dynamical processes in the ionosphere, theoretical modeling of the thermosphere, and/or experimental astrophysics. Opportunities exist to participate in magnetospheric, ionospheric and satellite physics research and development of experiments, and in data analysis and theoretical modeling. The opportunities also exist for a suitable candidate to assume program responsibilities for a major portion of the research program. The position is located in the Department of Physics, Utah State University, Logan, Utah 84322. The position is an equal opportunity/affirmative action employer.

Assistant Professor Position/Theoretical Physics. The Physics Department at the University of Houston expects to fill several tenure track positions in theoretical physics at the assistant professor level. The first of these may be filled in the fall of 1984. The areas of interest are Condensed Matter, Non-Linear Dynamics, Plasma Physics (including Space Plasma) and Statistical Mechanics. Our intention is to emphasize interdisciplinary activity within these broadly defined areas. It is desirable that candidates have an interest in interaction with other members of the theory group and the experimental programs. Send resumes and three letters of reference to: George Reiter, Physics Department, University of Houston, Houston, TX 77004. The University of Houston is an equal opportunity/affirmative action employer.

Postdoctoral in Field of Planetary Atmospheres. Start summer '84 for 12-month appointment, probably renewable, \$17,500. Preferred research interests upper atmosphere aeronomy (cosmospheres), climate modeling, radiative transfer. Send vitae to: Paul J. Igarashi, J.W. Chamberlain, Space Physics and Astronomy, Rice University, P.O. Box 1892, Houston, TX 77251.

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Replies to ads with less than 10 numbers should be addressed to Box 1, American Geophysical Union, 2000 Florida Avenue, N.W., Washington, DC 20009.
For more information, call 202-462-6903 or toll-free 800-424-2488.

POSITIONS WANTED

Ph.D. 1979 seeking research or teaching position. Experience in water-sediment interactions, lake ecosystems, and plant-plasma laboratory systems. Good working knowledge of UNIX, C, and IBM computers. Box 022, American Geophysical Union, 2000 Florida Avenue, N.W., Washington, DC 20009.

POSITIONS AVAILABLE

Trace Element Biogeochemist. The Academy of Natural Sciences/Berkeley Estuarine Research Laboratory has an immediate opening for a postdoctoral scientist interested in trace metal interactions with biota and inorganic chemistry. The position is full-time and requires a Ph.D. in a related field. The position is located in the Department of Geology, University of California, Santa Barbara, CA 93106. Send resume and three letters of reference to: J. T. Kunkin, Assistant to the Director, Haystack Observatory, Westford, MA 01886. MIT is an equal opportunity/affirmative action employer.

Postdoctoral Fellowship in Experimental Petrology at UCLA. Available September 1, 1984. Candidates should be accomplished in thermodynamics and in synthetic phase equilibria at low and high pressure. Knowledge of X-ray crystallography, electron microprobe spectroscopy, and thermodynamic modeling of rock-forming minerals also required. Please send vita, short summary of research goals, and two letters of recommendation by June 15, 1984 to: W.G. Ernst, University of California, Department of Earth and Space Sciences, Los Angeles, California 90024.

UCLA is an affirmative action/equal opportunity employer.

Lecturer/Department of Physics, Boston College. Department seeks person to teach courses in the area of space physics and introductory physics. Research in solar wind including data analysis and theoretical research, and supervising the department computer facilities. Position requires Ph.D. in Physics or Astronomy with strong background in space physics and heating of solar wind and data analysis of solar wind data. Send resume and three letters of reference to: J. T. Kunkin, Assistant to the Director, Haystack Observatory, Westford, MA 01886.

Scientist/Engineer. The Haystack Observatory is seeking a Scientist/Engineer to work in the field of Very Long Baseline Interferometry (VLBI). The Scientist/Engineer would assist in the development of a VLBI data acquisition electronics as well as for the NASA Global Dynamics Project. The applicant should have a Ph.D. or its equivalent in radio astronomy or a related field. Some engineering and knowledge of computer and microprocessor programming would be an asset. Please write, enclosing resume, to:

J. T. Kunkin
Assistant to the Director
Haystack Observatory
Westford, MA 01886
MIT is an equal opportunity/affirmative action employer.

Software Systems Engineer. Candidate will be responsible for the continuing development, maintenance and improvement of major software systems presently in use. Knowledge of X-ray crystallography, electron microprobe spectroscopy, and thermodynamic modeling of rock-forming minerals also required. Please send vita, short summary of research goals, and two letters of recommendation by June 15, 1984 to: W.G. Ernst, University of California, Department of Earth and Space Sciences, Los Angeles, California 90024.

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J. T. Kunkin
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